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REPORTS ON THE COLLECTIONS OBTAINED BY THE FIRST  
JOHNSON-SMITHSONIAN DEEP-SEA EXPEDITION  
TO THE PUERTO RICAN DEEP

# THREE NEW DEEP-WATER FISHES FROM THE WEST INDIES

(WITH ONE PLATE)

BY

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### THREE NEW DEEP-WATER FISHES FROM THE WEST INDIES

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Preliminary examination of the fishes obtained by the Johnson-Smithsonian Deep-Sea Expedition in 1933 has disclosed the presence of several new forms, three of which are herewith diagnosed.

#### Family GONOSTOMATIDAE

*Margrethia obtusirostra* was described by Jespersen and Tåning<sup>1</sup> from postlarval and adolescent individuals obtained at a depth of about 150 meters in the eastern Atlantic by the *Margrethe*. No exact localities are given, except for the two figured specimens, in the explanation of the plate, and as for range the authors merely state, "the distribution closely coincides with that shown by *Bonapartia pedaliota*," that is, Cadiz Bay and the Atlantic south of the latitude of the Azores. The description is very short, and the authors probably intended to present a more extended account later, as they did for the Mediterranean species, but this has not appeared. I find no record of the capture of additional specimens. In the collections obtained by the *Caroline* I find a single large *Margrethia* which differs distinctly from *M. obtusirostra* in many ways.

#### MARGRETHIA DISJUNCTA, n. sp.

*Holotype*.—U.S.N.M. no. 93112 (Field no. 498a); 31 mm standard length; *Caroline* station 87, open ocean north of Culebra Island, latitude 19°18'30" N., longitude 65°16'00" W., to latitude 19°13'00" N., longitude 65°16'00" W., February 27, 1933, otter trawl, 950 fathoms wire out.

<sup>1</sup> Vidensk. Medd. Dansk. naturh. Foren., vol. 70, p. 222, pl. 17, figs. 11, 12, 1919.

Dorsal 16. Anal 21, the anterior rays more elongate. Pelvic 8. Caudal (counting from above downward) 7+10+9+6. Gill-rakers on first arch long and slender, with minute asperities, 5 on upper limb and 10 on lower. Pseudobranchiae well developed. Scales mostly lost, but there appear to be about 30 scale pockets in the midside series.

Teeth in jaws uniserial, conical, and sharp. On the premaxillary the teeth are rather small, but with some enlarged on the expanded part. Median part of upper jaw toothless, the first tooth on each premaxillary enlarged and directed forward and inward. Teeth of maxillary extremely close set, every fourth to sixth tooth enlarged; all of them strongly directed forward, those of the anterior part pointing almost straight forward. Mandibular teeth larger than those of maxillary, close set, every seventh or eighth tooth enlarged. A single series of small conical teeth on each palatine, the first one enlarged. Two large patches of tiny pterygoid teeth in the roof of the mouth.

Photophores: One preorbital (Orb) photophore directly in front of eye, embedded in the proximal end of the maxillary bone. Three opercular (Op) photophores, one along the preopercle-opercle junction, one beneath the subopercle, and one directly behind the articulation of the mandible. No symphysial (SO) photophore. Branchiostegal (Br) photophores 11. Body (BO) photophores 14, arranged peculiarly. Up to the tenth they are in a straight, compact series, but the tenth, eleventh, and twelfth are displaced upward in an ascending series. The thirteenth is set directly below the twelfth (that is, in a line with the first 9) and the fourteenth follows the thirteenth directly behind. It is this disjunction of the BO series that is the most notable character of the new fish and the one from which the specific name is derived. The pelvic base barely separates the fourteenth BO photophore from the four pelvic (VO) ones. The supra-anal (AO) photophores are 14+3 in number, the first two slightly elevated, but not forming an arch as in *M. obtusirostra*.

Top of head with three bony keels. The lateral ones begin together at the supraoccipital region and run forward and outward till they merge with the orbital rim. The median crest, more rounded in cross-section than the lateral ones, begins above the pupil and runs forward to the ethmoid region. Preopercular margin sharply inclined. Posterior margin of operculum nearly straight, with a slight excision medially. Tooth-bearing edge of each premaxillary with a strong convex expansion posteriorly. The long and uninterrupted curve of the maxillary is rather strongly convex. Lower jaw bones rather deep and very thin.

Body deepest at junction of head and body, the venter rising in an almost straight line to the beginning of the caudal peduncle. The upper profile of the snout is flat or a little concave, and the top of the head is rounded. The dorsum then rounds slightly to the dorsal origin and thence slopes gradually to the caudal peduncle.

The measurements of the holotype, in millimeters, are as follows: Standard length 31, greatest depth 10, head length 9, orbit diameter 3, length lower jaw 9, length dorsal base 7.5, length anal base 10, snout 2, snout tip to dorsal origin 16, snout tip to pelvic origin 15, snout tip to anal origin 18, least depth caudal peduncle 3.5, length caudal peduncle (from anal) 4.5, longest gill-raker (at angle) 2.5, length caudal fin 10. All longitudinal measurements, save those of the lower jaw and fin bases, are made as to the verticals of the points indicated, on an ideal longitudinal axis of the fish.

Entire snout and tip of lower jaw hyaline. Cheeks, opercles, and middle area of sides back to above first third of anal base iridescent bluish silvery. From above eye to end of dorsal base the back is blackish, and there is a dark patch or bar over the origin of the caudal rays. Posterior part of body yellowish. Iris blackish, except for a segment directly under the pupil, which is silvery. Fins all hyaline.

Below is given a table of the chief differences between *M. obtusirostra* and the new species. Those differences which are marked with an asterisk (\*) may disappear when specimens of similar age or size are compared.

<i>M. obtusirostra</i>	<i>M. disjuncta</i>
Top of head and snout continuously convex, the profile of the snout very strongly decurved.*	Top of head rounded, with a median bony crest, the line of the snout, as it slopes down, becoming flat or slightly concave as it approaches upper jaw.*
Tooth-bearing edge of premaxillary only weakly convex posteriorly.*	Tooth-bearing edge of premaxillary posteriorly with a strongly convex expansion bearing canine teeth.*
Lower jaw very shallow.	Lower jaw rather deep.
Depth of cheek (orbit rim to maxillary), directly below center of pupil, scarcely half orbit diameter.	Depth of cheek equal to over .75 orbit diameter.
Greatest body depth (at rear of head) enters standard length about 3.5 times.*	Greatest body depth (at rear of head) enters standard length about 3 times.*
No preorbital photophore.	A preorbital photophore present.
Branchiostegal photophores 13.	Branchiostegal photophores 11.

*M. obtusirostra*

Body photophores (BO) 14 or 15, in a single straight, continuous series.

Ventral photophores (VO) 4, distinctly separated from BO series; small in size\* and slightly separated from each other.

Supra-anal photophores (AO) small and separated from each other by distances much greater than their own widths; \* 13 + 4 in number; the first four forming an upward arc.

Eye with iris wholly dark.

Teeth of maxillary and premaxillary small; directed forward very slightly.

*M. disjuncta*

Body photophores (BO) 14, with a disjunction between the twelfth and thirteenth.

Ventral photophores (VO) 4, scarcely separated from the BO series by pelvic base; large\* and placed tightly together.

Supra-anal photophores (AO) large and separated from each other by distances distinctly less than their own widths; \* 14 + 3 in number; the first two slightly elevated.

Iris dark except for a silvery segment below.

Teeth of maxillary small, interspersed with enlarged teeth; all teeth of upper jaw strongly directed forward, those of the premaxillary expansion and of anterior part of maxillary pointing almost straight forward.

## Family TRIACANTHIDAE

The discovery of a second genus and species of this family in the Western Hemisphere by the Johnson-Smithsonian Deep-Sea Expedition is exceptionally interesting. *Hollardia hollardi* was described by Poey in 1861 from a single specimen cast ashore near Havana. Poey's type, a dried skin in good condition, is still the only example known, and it is here figured (pl. 1, fig. 2) for comparison with the new genus. The two specimens referred to *H. hollardi* by Breder in 1925 are considered below to belong to a distinct species.

In attempting to work out the relationships of the new form, it was found useful to prepare a table of the genera, and since there has been no recent attempt at a revision, my notes are presented in the form of a key followed by brief remarks on the genera. In describing the new genus and preparing the synopsis, I have been fortunate in having at hand examples of all the described recent genera, from the collections of the United States National Museum.

I am unable at present to correlate either of the two fossil triacanthid genera, *Acanthopleurus* Agassiz<sup>2</sup> and *Marosia* de Beaufort<sup>3</sup> with the recent forms. Both seem near *Triacanthus*.

<sup>2</sup> See Woodward, Cat. Foss. Fish. British Mus., part 4, p. 566, 1901.

<sup>3</sup> Jaarb. Mijnw. Ned.-Ind., vol. 54, pt. 1, p. 142, pl. 5, fig. 5, 1926.

**JOHNSONINA**, n. gen.

*Genotype*.—*Johnsonina eriomma*.

Teeth minute, weak, conical, about 40 in a single regular series in each jaw. Snout short, blunt. Body deep, heavy, and compact. Gill openings restricted, reaching down only to opposite middle of pectoral base. Pseudobranchiae restricted to upper half of opercular wall. Mouth terminal. Lips thin. Spinous dorsal origin well forward, the spines 6 in number, the last buried deeply in the flesh. Eyes very large.

Named in honor of Mr. Eldridge R. Johnson, sponsor of the Johnson-Smithsonian Deep-Sea Expedition.

**JOHNSONINA ERIOMMA**, n. sp.

Plate I, fig. 1

*Holotype*.—U.S.N.M. no. 93113 (Field no. 591). 113 mm standard length; from *Caroline* station 100, due north of Tobago Island, latitude  $18^{\circ}38'45''$  N., longitude  $64^{\circ}52'45''$  W., to latitude  $18^{\circ}40'15''$  N., longitude  $64^{\circ}50'15''$  W., March 4, 1933, otter trawl, 100 to 300 fathoms.

*Paratypes*.—U.S.N.M. no. 93114 (Field no. 592-594); three specimens, 111 to 117 mm standard length; same data as holotype.

*Paratype*.—U.S.N.M. no. 93115 (Field no. 651); one specimen, 106 mm standard length; from *Caroline* station 101, north of Tobago Island, latitude  $18^{\circ}40'30''$  N., longitude  $64^{\circ}50'00''$  W., to latitude  $18^{\circ}45'40''$  N., longitude  $64^{\circ}48'00''$  W., March 4, 1933, otter trawl, 190 to 300 fathoms.

*Paratype*.—U.S.N.M. no. 93116 (Field no. 439); one specimen, 61 mm standard length; from *Caroline* station 81, north-northwest of Culebra Island, latitude  $18^{\circ}29'45''$  N., longitude  $65^{\circ}25'50''$  W., to latitude  $18^{\circ}35'30''$  N., longitude  $65^{\circ}23'54''$  W., February 26, 1933, otter trawl, 200 to 400 fathoms.

Dorsal spines 6, decreasing in length and stoutness to the last, which is buried almost to its tip in the flesh. Length of first spine equals slightly more than half body depth in adult specimens, comparatively longer in half grown. Soft dorsal 15, first and last rays short and slender, base of first ray only a very short distance behind tip of sixth spine. Basal half of anterior dorsal spines with a dermal covering of minute asperities, these being larger on the lateral faces of the spines. Soft dorsal rays with minute asperities for more than half their length. Distal ends of dorsal spines longitudinally grooved. Origin of spinous dorsal slightly anterior to vertical of gill opening, far anterior to middle of standard length.

Anal fin of 13 soft rays, first and last short and slender, all of them with asperities basally similar to those of soft dorsal rays. Anal origin under base of seventh dorsal ray.

Pelvic fins each of 1 strong spine, equal to first dorsal spine in length, and a tiny spine in the axil (hinged like the larger one) with its base rather heavy and its tip soft and tapering. Occasionally this tip is absent. The large spine is covered with minute asperities for nearly half its length. Distally, it is grooved like the dorsal spines. Origin of pelvic spine under base of first dorsal spine. Pelvic girdle rather wide beneath; width of girdle (inclusive of bases of the appressed spines) is one half the length of the spines, whereas the same measurement enters the length of the spines two and one half times in the type of *Hollardia hollardi*.

Pectoral fins rather short and rounded, of 14 rays, the first (upper) one very short and slender. Upper end of pectoral base below mid-depth of body at this point, opposite middle of gill opening. Pectoral rays with asperities on both sides. Longest ray slightly less than orbit diameter.

Caudal fin more or less rounded, of 10 principal branched rays and 1 shorter undivided supporting ray above and below. Length of caudal fin equals half body depth.

Teeth minute, conical, strictly in one series. There are 38 to 44 teeth in each jaw.

Body rather compressed (more so in young), thick-set, widest at the head, deepest at end of spiny dorsal in the adult, and at first dorsal spine in half grown. Depth 2.17 in standard length (adult) to 1.84 (half grown). Head 2.69 (adult) to 1.84 (half grown). Eye enormous, twice in head. Interorbital wide, 1.4 in eye diameter. Snout blunt, 1.75 in eye. Gill opening very restricted, half above and half below level of upper border of pectoral base, lower extremity of the slit not reaching down to level of lower part of pectoral base. Pseudo-branchiae well developed, but restricted to the upper half of the opercular wall. Squamation rough, resembling that of *Hollardia hollardi* but the individual scales much smaller. Lateral line not evident.

Coloration in alcohol yellowish white, with a black spot about one third eye diameter on the upper part of the side under origin of soft dorsal. A color sketch from life shows the body marbled orange-pink above, pale on belly, the large spot dark brown ocellated with a narrow orange ring and a larger white ring. Dorsal spines orange-pink, fins otherwise colorless. Pupil black. Iris white.

(Erionma, from *ἐρι*, an intensive particle, and *ὄμμα*, eye; in allusion to the enormous eyes and the ocellated spot.)



## KEY TO GENERA OF TRIACANTHIDAE

- 1a. Front pair of teeth in each jaw wide compressed incisors, forming a beak; caudal peduncle long; mouth terminal; spinous dorsal 5; pseudobranchiae present, little developed, confined to upper part of opercular wall. (Subfamily Triacanthinae.) ..... *Triacanthus*.
- 1b. Front pair of teeth in each jaw not enlarged incisors, rather small, conical or compressed, and never forming a beak; caudal peduncle comparatively short.
- 2a. Snout greatly prolonged, tubular, the tiny mouth at the tip, directed upward; dorsal spines 2 or 3. (Subfamily Halimochirurginae.)
- 3a. Teeth present in both jaws, conical; lips not greatly flattened; dorsal spines 2 or 3. .... *Halimochirurgus*.
- 3b. Teeth present only in lower jaw, incisors with truncate tips; lips wide, forming a flattened, suckerlike disk; dorsal spines 3.  
*Macrorhamphodes*.
- 2b. Snout not greatly prolonged; dorsal spines 4 or more. (Subfamily Triacanthodinae.)
- 4a. Teeth truncated incisors; dorsal spines 4, the last imbedded deeply; lips very thick; mouth very strongly directed upward, almost superior; fin spines with strong retrorse hooks; pseudobranchiae confined to upper half of opercular wall. .... *Tydemanina*.
- 4b. Teeth conical; dorsal spines 5 or more (except in *Bathyphylax*), the last deeply imbedded; lips moderate or thin; mouth terminal or directed upward, never superior.
- 5a. Branchial openings comparatively wide, extending below lower edge of pectoral base; pseudobranchiae very well developed, extending far below middle of opercular wall; dorsal origin anterior; teeth strong and few, a pair of conical teeth behind main series in each jaw indifferently present or absent; dorsal spines 5 or 6.  
*Triacanthodes*.
- 5b. Branchial openings restricted, not extending downward as far as lower part of pectoral base; pseudobranchiae confined to upper half of opercular wall (not examined in *Hollandia* or *Bathyphylax*); conical teeth behind main series usually absent.
- 6a. Dorsal set posteriorly, distance between snout tip and base of first dorsal spine greater than half standard length; dorsum rising to a point at first dorsal spine, the base of dorsal fins obliquely descending; teeth large, strong and few; dorsal spines 6.  
*Hollandia*.
- 6b. Dorsal set anteriorly, distance between snout tip and base of first dorsal spine considerably less than half standard length; dorsum truncate, the base of the dorsal fins in adults approximately horizontal.
- 7a. Teeth strong and few, about 10 in each jaw; dorsal spines 6, the last almost invisible; conical teeth behind main row occasionally present; eye moderate. .... *Paratriacanthodes*.
- 7b. Teeth weak and many, 20 or more in each jaw, strictly in a single series; eye large.

- 8a. Snout very blunt; body deep and heavy; teeth minute, about 40 in each jaw in the adult; dorsal spines 6...*Johnsonina*.
- 8b. Snout tubular but short, forming a deep angle with forehead before eye; body rather slender; teeth larger, unequal in number, 20 in upper and 28 in lower jaw; dorsal spines 4, with two deeply imbedded free spines between the two dorsal fins. ....*Bathyphylax*.

*Triacanthus* (Cuvier) Oken, 1817. Several species studied. The genus was revised by Regan.<sup>4</sup>

*Halimochirurgus* Alcock, 1899. I have examined two of the four species (*H. macraulos* Fowler and *H. triacanthus* Fowler).

*Macrorhamphosodes* Fowler, 1934. Types of *M. platycheilus* Fowler<sup>5</sup> examined.

*Tydemania* Weber, 1913. I have studied eight examples of *T. navigatoris* Weber, the only known species. The fourth dorsal spine, almost completely hidden in the flesh, was evidently overlooked by Weber.

*Triacanthodes* Bleeker, 1858. Examples of both *T. anomalus* (Schlegel) and *T. aethiops* Alcock have been examined. There may be either 5 or 6 spines present in *aethiops*.

*Hollardia* Poey, 1861. The type and only known specimen of *H. hollardi* Poey is a dried skin, now 139 mm standard length, U.S.N.M. no. 15454. The origin of the spinous dorsal is above the middle of the standard length and the distance from the base of the first dorsal spine to the snout tip is equal to half the total length of the specimen. Dorsal spines 6, soft dorsal rays 17, anal 15, caudal 12, pectoral 13 besides one rudimentary ray at upper margin. A single small spine or ray in the axil of each large pelvic spine. Teeth large, strong, conical, 14 in upper and 16 in lower jaw. The other proportions are well shown in the photograph (pl. 1, fig. 2).

In 1925 Breder<sup>6</sup> recorded two specimens from the Caribbean as *H. hollardi*, one of them being figured. No locality or measurements are given. It seems likely, however, that the 484-fathom haul of April 20, from which came specimen 540, is the same one in which the type of *Pseudoxenomystax dubius* was caught, on the same date and at the same depth. If this is true, the *Hollardia* was taken north of Glover Reef, British Honduras. The figured example differs from *H. hollardi*, if we may believe the apparently excellent figure, in the following points: Soft dorsal 12, anal 16. Orbit small, about 4.17 in body depth (versus 3.58 in *hollardi*). Caudal peduncle much more

<sup>4</sup> Proc. Zool. Soc. London, 1903, pp. 180-185.

<sup>5</sup> Proc. Acad. Nat. Sci. Philadelphia, vol. 85, p. 365, 1934.

<sup>6</sup> Bull. Bingham Oceanogr. Coll., vol. 1, no. 1, p. 75, fig. 33, 1925.

slender. An interspace present between end of soft dorsal fin base and beginning of caudal peduncle. Dorsal fin inserted farther forward, nearly over pectoral base, rather than far behind it. These differences make me believe that Breder's material represents a distinct species.

*Paratriacanthodes* Fowler, 1934. Fowler<sup>7</sup> mentioned six paratypes of his *P. retrospinis*. Three of these agree with the holotype in their larger size; the upturned mouth, which is partly on a level with the lower border of the eye; a very long pelvic spine, which is equal to or longer than the first dorsal spine; and comparatively coarse squama-

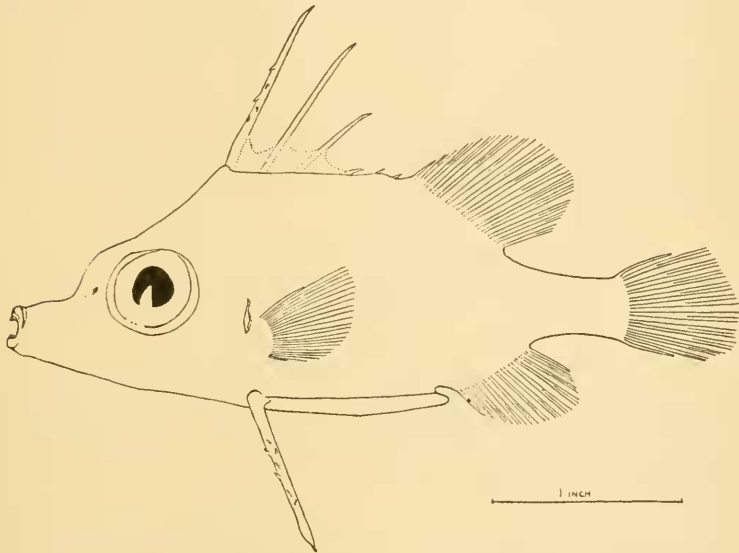


FIG. 1.—*Bathypylax bombifrons*. Holotype, U.S.N.M. no. 93299. Drawing by Martha Bowen. Natural size.

tion. The pelvic and first dorsal spines are armed with strong retrorse hooks, and the body depth enters the standard length about 2.25 to 2.30 times. The other three paratypes represent a smaller species with a strictly terminal mouth, entirely below the level of the eye; pelvic spines somewhat shorter than the first dorsal spine; and much finer squamation. The spines entirely lack strong retrorse hooks and the depth is only 2. The new species, of which the holotype is U.S.N.M. no. 93293 (P. 3149, D. 5519), from off Point Tagolo Light, latitude  $8^{\circ}47'00''$  N., longitude  $123^{\circ}31'15''$  E., 182 fathoms, August 9, 1909, U.S.S. *Albatross*, may be called *Paratriacanthodes herrei*, after Dr. Albert W. Herre of Stanford University. The holotype is 73 mm

<sup>7</sup> Proc. Acad. Nat. Sci. Philadelphia, vol. 85, p. 364, fig. 114, 1934.

standard length. The dorsal spines in both *P. retrospinis* and *P. herrei* are 6 in number, Fowler having overlooked the hidden sixth spine in these specimens.

*Johnsonina* Myers, 1934. See above for description.

*Bathyphylax*, new genus. Genotype *Bathyphylax bombifrons*, new species (text fig. 1). The single specimen, U.S.N.M. no. 93299 (P. 4357, D. 5308), from the China Sea off Hong Kong, latitude  $21^{\circ}54'00''$  N., longitude  $115^{\circ}42'00''$  E., 62 fathoms, November 4, 1908, U.S.S. *Albatross*, was misidentified in the collection as *Tydemania navigatoris*, which it resembles considerably. Standard length 87 mm. Dorsal with 4 spines, 2 small imbedded spines between the 2 fins, and 14 soft rays. Anal 12. Caudal 12. Pectoral 13. No ray in pelvic axil. First dorsal spine 25 mm. Pelvic spine 27 mm. Orbit (horizontal) 14 mm. Depth at dorsal origin 33 mm, equal to head length. First dorsal and pelvic spines with retrorse hooks, as in *Tydemania*. Color pale brownish.

#### Family PERISTEDIIDAE

##### PERISTEDION BARTSCHI, n. sp.

Text fig. 2

*Holotype*.—U.S.N.M. no. 93186 (Field no. 16); from *Caroline* station 1, off Punta Boca Juana, north coast of Puerto Rico, latitude  $18^{\circ}33'45''$  N., longitude  $66^{\circ}15'00''$  W., January 30, 1933, large otter trawl, 360 to 600 fathoms.

Dorsal VII—19. Anal 19. Scutes in the upper of the two lateral series 33. Lower lateral series of scutes not breaking up into two rows anteriorly, behind the appressed pectoral fins.

Head and snout broad. Width of snout (including flanges), at base of rostral processes, equal to snout length and greater than length of processes. Rostral processes long, narrow, of almost equal breadth throughout their length, diverging, their bases far apart, their length 2.25 times in distance from their base to posterior termination of main cephalic flange. Interorbital equal to horizontal diameter of bony orbit. Cephalic flange well developed along its entire length, its margin more or less regular, not strongly emarginate near its end, truncate at its posterior termination. Supplementary ridges below flange well developed, low, not produced outward beyond flange at any point. Greatest width of head (including flanges) much greater than its greatest depth. Anterior pair of ventral thoracic plates short and broad, not extending as far forward as do the bony processes before each pelvic

fin. Barbels slender, with filamentous tips, the outer compound ones at each side of lower jaw long, nearly twice horizontal diameter of orbit.

Measurements of holotype in millimeters: Standard length (hypural to tip of premaxillary) 185.0, greatest body depth 35.0, head length (minus rostral processes, on ideal axis) 92.5, depth head at middle of pupil 33.5, width head (at posterior termination of flanges) 64.0, length orbit 17.0, depth orbit 12.0, least width of snout (at outer margin of base of rostral processes) 30.5, width between bases of rostral processes 20.0, greatest distance between outer margins of distal

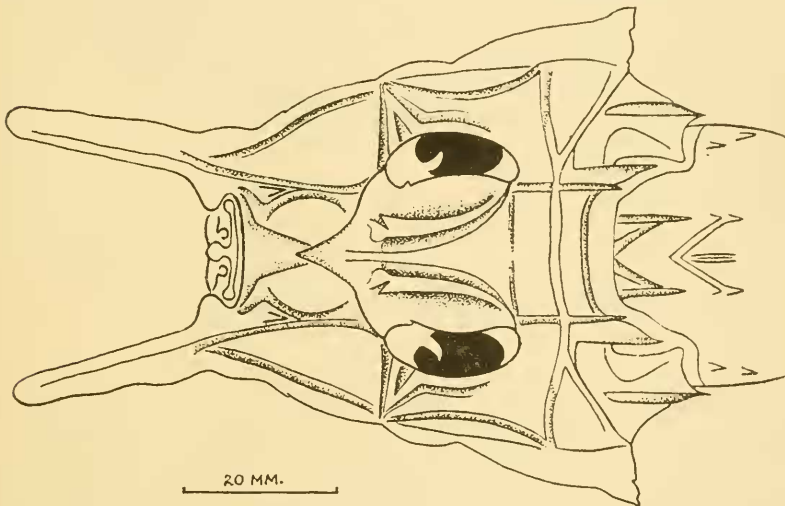


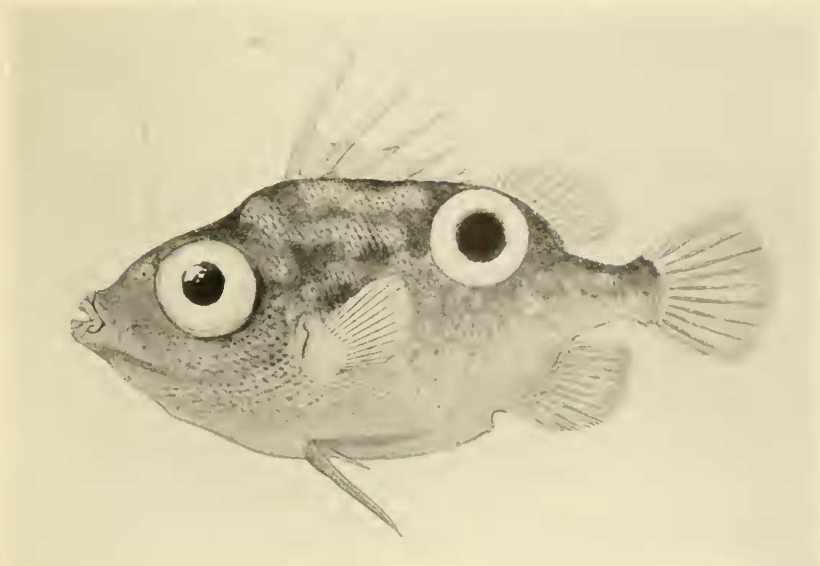
FIG. 2.—*Peristedion bartschi*. Holotype, U.S.N.M. no. 93186. Drawing of upper surface of head, by Mary Wallach. Natural size.

parts of rostral processes 41.0, length rostral process 26.0, width rostral process 4.5, interorbital 18.0, snout length including rostral processes (on ideal axis) 50.5, premaxillary tip to dorsal origin (on ideal axis) 62.5, premaxillary tip to anal origin (on ideal axis) 95.5, premaxillary tip to anus (on ideal axis) 87.0, length base first dorsal 26.0, length base second dorsal 70.0, length base anal fin 62.5, length (greatest) anterior ventral thoracic plate 30.0, width anterior ventral thoracic plate (one, not both) 14.0, length outer (longest) barbel 30.5.

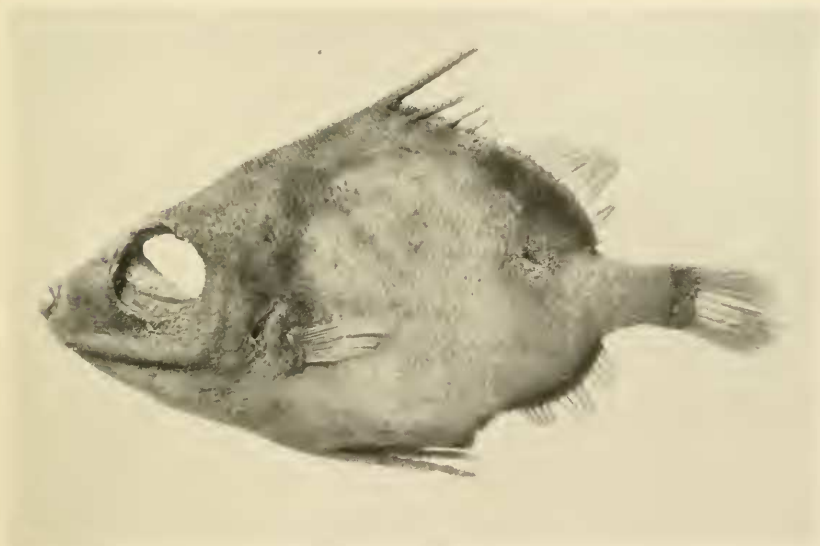
Coloration pale (red in life), mottled and marbled all over upper surface and sides of body and head with dark brown. First dorsal fin with a black border. Pectoral dark with many light spots. Caudal mottled with dark.

Only the type known.

Most closely allied among known species to *P. longispatha* Goode and Bean, but differing widely in the much broader and heavier head and snout, the shorter and broader rostral processes, the wider inter-orbital, the absence of a strong emargination near the posterior termination of the cephalic flange, and the color. Named for Dr. Paul Bartsch, director of the Johnson-Smithsonian Deep-Sea Expedition.



1. *Johnsonina eriomma*. Paratype (Field no. 592), 111 mm standard length, from Caroline station 100. From a painting by E. Cheverlange.



2. *Hollardia hollardi*. Holotype, U.S.N.M. no. 15454.